UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

May 1962

Part II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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* Part I - "Fishery Products Production and Market Data" is issued by the Bureau of Commercial Fisheries, Market News Service, Post Office Building, San Pedro, California

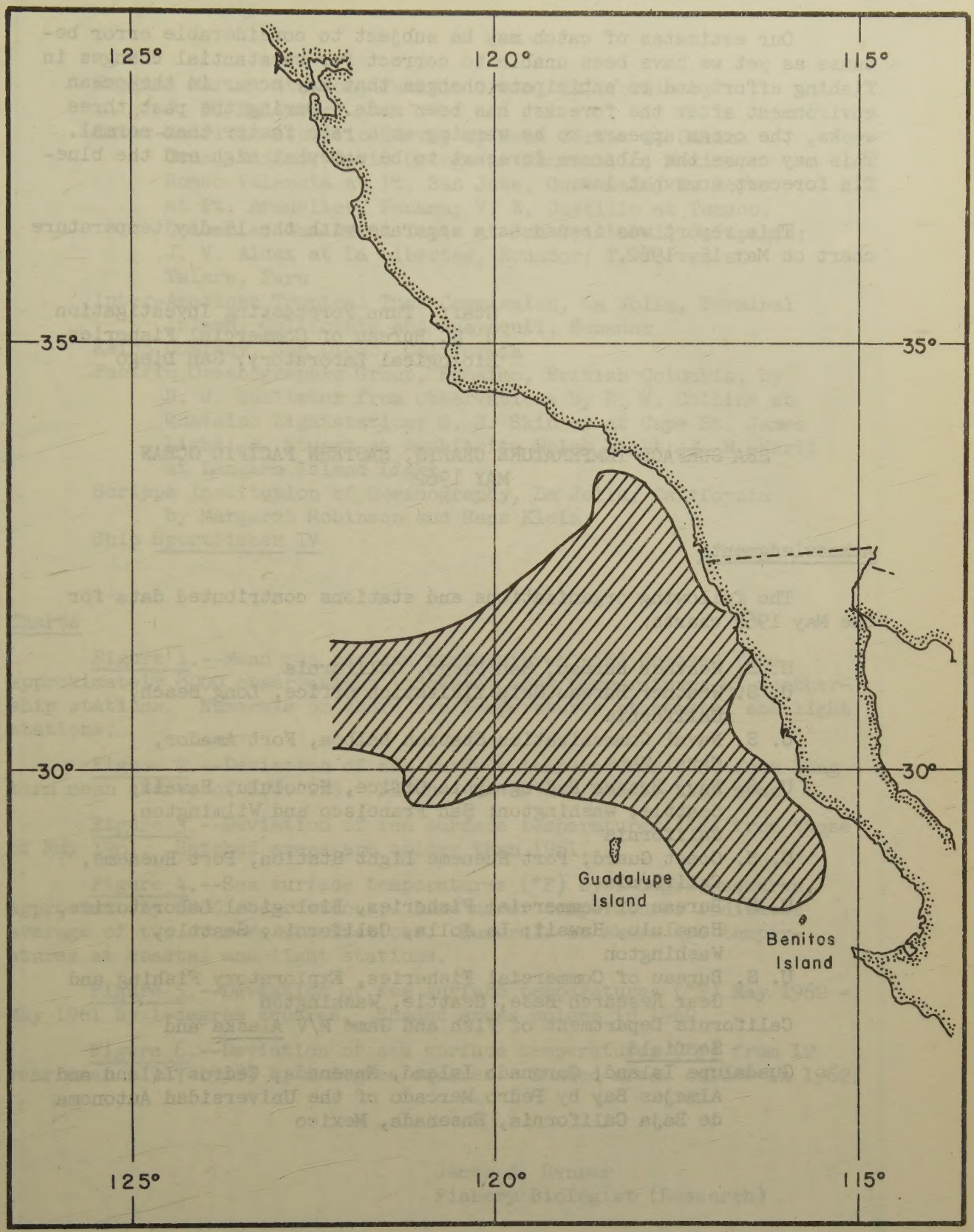
TEMPERATE TUNA FORECAST 1962

In May 1961 the staff of the Tuna Forecasting Program of the U.S. Bureau of Commercial Fisheries Biological Laboratory, San Diego issued its first forecast for the albacore fishery in the eastern Pacific Ocean. The staff predicted that 10.0 million pounds of albacore would be taken from waters south of the International Border between Mexico and the United States and that the fishery would begin farther south than it had in the preceding three years. A preliminary report from the California Department of Fish and Game recently stated that 8.4 million pounds of albacore were taken from this region in 1961.

During the past year the ocean to the west of Baja California and southern California has continued to cool from abnormally high water temperatures in the years 1958 and 1959. This year, temperatures are up to 2° F. cooler than the long-term mean, whereas in 1958 and 1959, temperatures were as much as 6° F. warmer than the long-term average. The years 1958 and 1959 were noted for the complete failure of the southern albacore fishery.

On the basis of shore temperatures averaged for January through April, and water temperatures and salinities taken in April by the California Cooperative Oceanic Fisheries Investigation, we estimate that 18.0 million pounds of albacore will be taken from the region south of the International Border in 1962, and that in June and July the fishery should extend as far south as Guadalupe and Benitos Islands. The accompanying chart, which is prepared from temperature and salinity data, delineates the region that we expect will produce about two-thirds of the total albacore catch in June and July of this year.

Historical catch records show an inverse relationship between albacore catch from south of the International Border and bluefin catch from California waters. We believe this relationship is due to differences in response by the two species to the oceanic environment. In "cold" years albacore move farther south than usual, resulting in high catches south of the border. In "warm" years bluefin move to the north, giving high catches from California waters. Since this is a "cold" year the center of the bluefin population is expected to remain to the south; we estimate that a below-average bluefin catch of 5.7 million pounds will be taken from California waters. Our analyses so far have not provided us with the means of predicting total west coast albacore and bluefin landings.



Cross-hatched region delineates the area expected to produce about two-thirds of albacore catch in June and July 1962.

Our estimates of catch may be subject to considerable error because as yet we have been unable to correct for substantial changes in fishing effort and to anticipate changes that may occur in the ocean environment after the forecast has been made. During the past three weeks, the ocean appears to be warming at a rate faster than normal. This may cause the albacore forecast to be somewhat high and the bluefin forecast somewhat low.

This report was issued as a separate with the 15-day temperature chart on May 15, 1962.

Staff, Tuna Forecasting Investigation
U. S. Bureau of Commercial Fisheries
Biological Laboratory, San Diego

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN MAY 1962

Acknowledgments

The following organizations and stations contributed data for the May 1962 charts:

U. S. Weather Bureau, San Diego, California
U. S. Weather Bureau Ship Visitation Office, Long Beach, California
U. S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U. S. Navy Branch Hydrographic Office, Honolulu, Hawaii; Seattle, Washington; San Francisco and Wilmington, California
U. S. Coast Guard, Port Hueneme Light Station, Port Hueneme, California
U. S. Bureau of Commercial Fisheries, Biological Laboratories, Honolulu, Hawaii; La Jolla, California; Seattle, Washington
U. S. Bureau of Commercial Fisheries, Exploratory Fishing and Gear Research Base, Seattle, Washington
California Department of Fish and Game M/V Alaska and Scofield
Guadalupe Island, Coronado Island, Ensenada, Cedros Island and Almejas Bay by Pedro Mercado of the Universidad Autonoma de Baja California, Ensenada, Mexico

Hopkins Marine Station, Pacific Grove, California by J. P. Balesteri

Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico; David Ortega at Manzanillo, Mexico; Romeo Valencia at Pt. San Jose, Guatemala; D. Reyes at Pt. Armuelles, Panama; V. E. Castillo at Tumaco, Colombia; Gualberto Tapia at San Cristobal, Galapagos; J. V. Aldaz at La Libertad, Ecuador; T. Torres at Talara, Peru

Inter-American Tropical Tuna Commission, La Jolla, Terminal Island, California and Guayaquil, Ecuador

Kelco Company, San Diego, California

Pacific Oceanographic Group, Nanaimo, British Columbia, by H. J. Hollister from observations by R. W. Collins at Quatsino Lightstation; G. J. Skinner at Cape St. James Light; B. Stuart at Amphitrite Point Light; J. M. Hartt at Langara Island Light

Scripps Institution of Oceanography, La Jolla, California by Margaret Robinson and Hans Klein

Ship Sportfisher IV

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 8000 observations. Squares show temperatures at weather-ship stations. Numerals on shore are temperatures at coastal and light stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term mean charts of H.O. 225. Hatched areas are colder than mean.

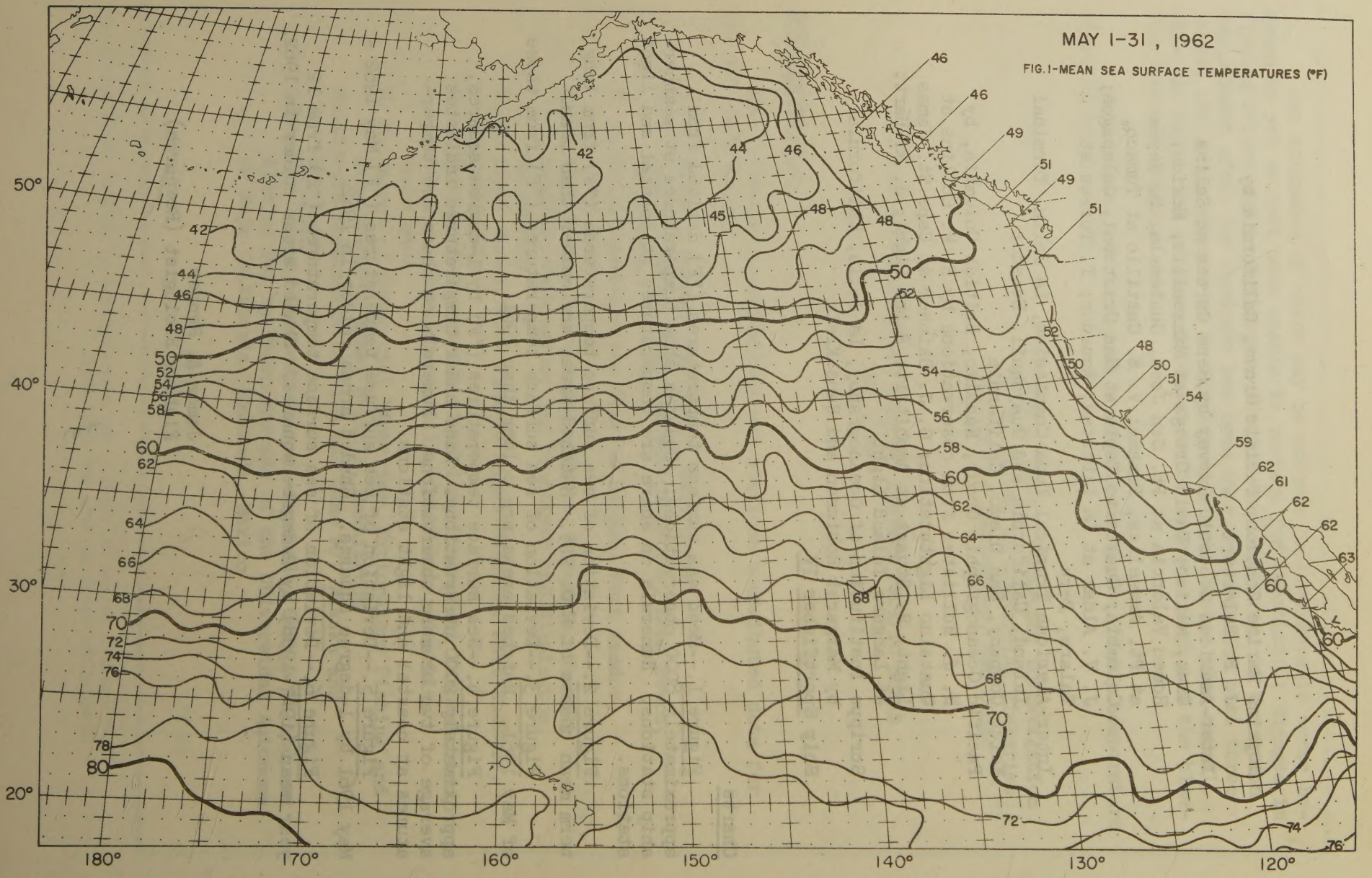
Figure 3.--Deviation of sea surface temperatures (°F) from those of May 1961. Hatched areas are colder than 1961.

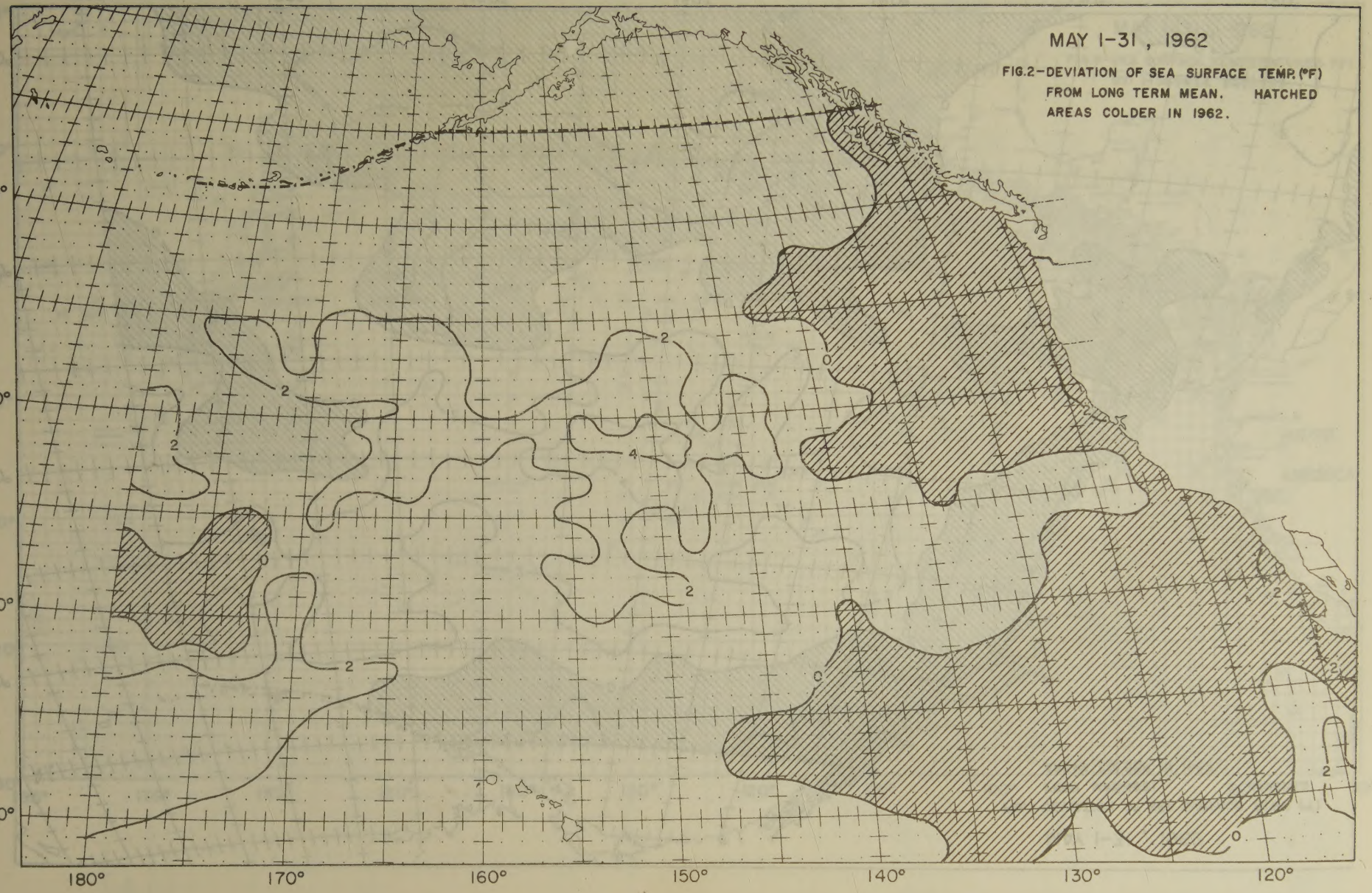
Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal and light stations.

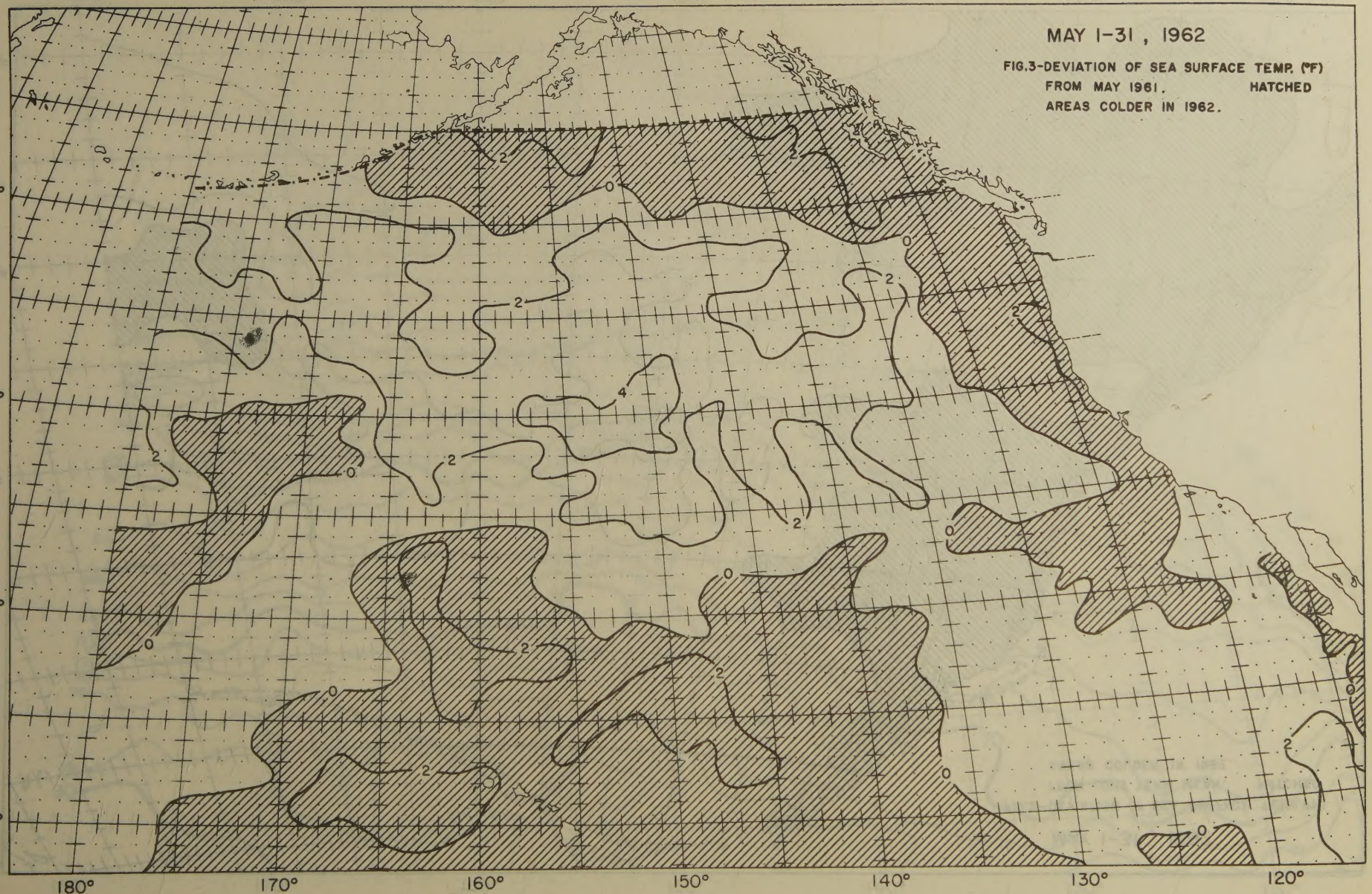
Figure 5.--Deviation of sea surface temperatures (°F) May 1962 - May 1961 by 1-degree squares. Shaded areas colder in 1962.

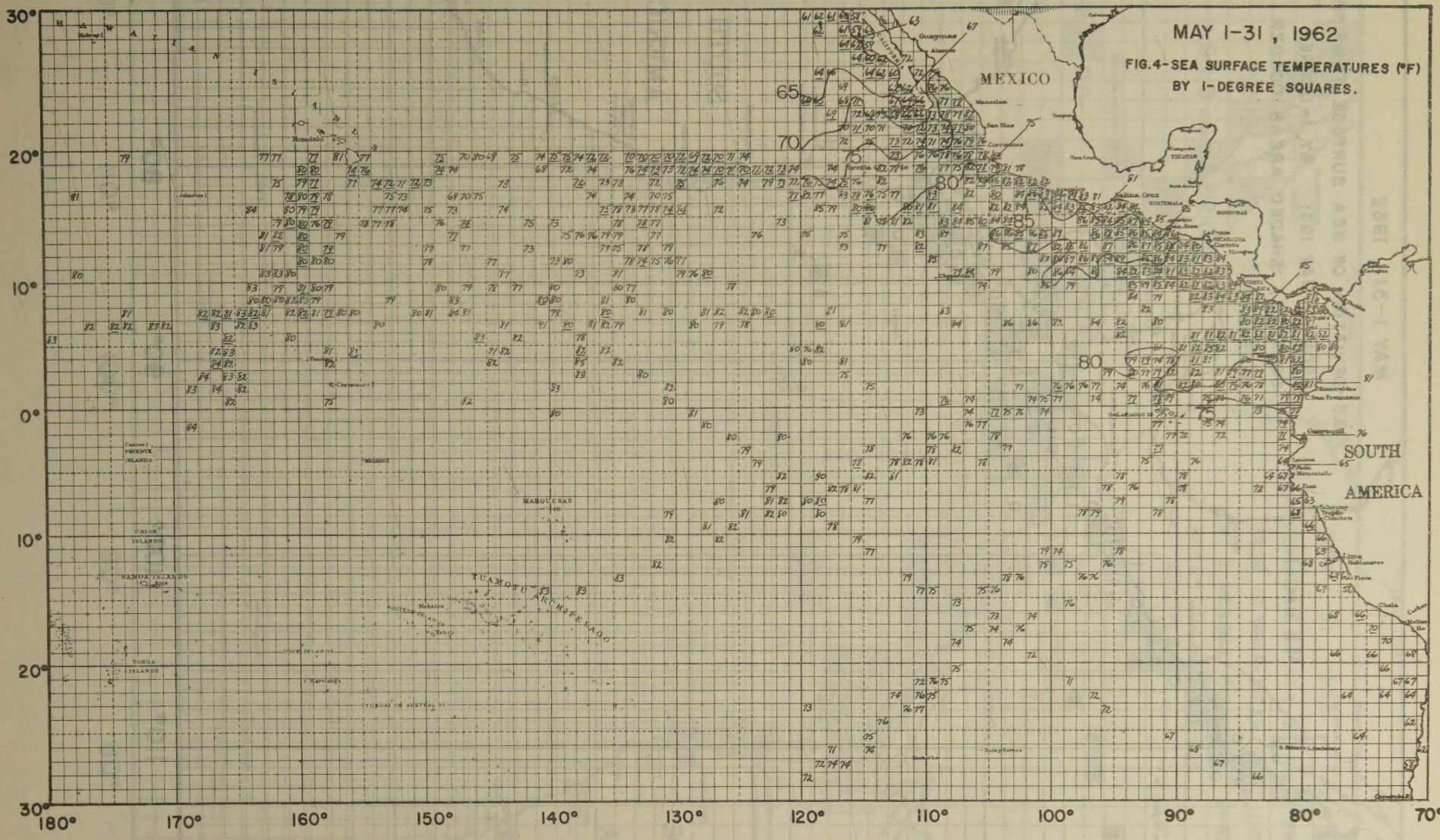
Figure 6.--Deviation of sea surface temperatures (°F) from 12 year mean (1947-1958) by 2-degree squares. Shaded areas colder in 1962.

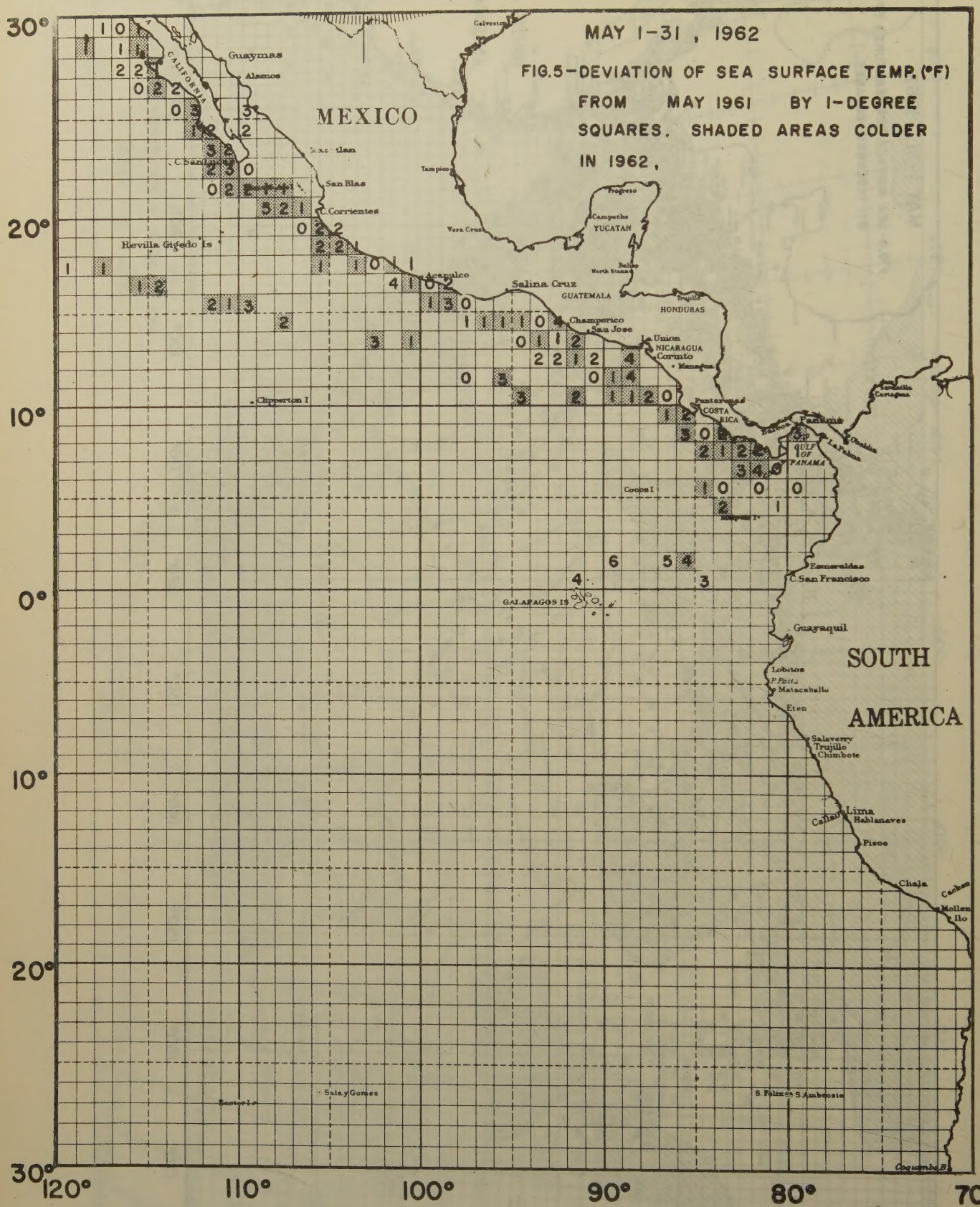
James A. Renner
Fishery Biologist (Research)

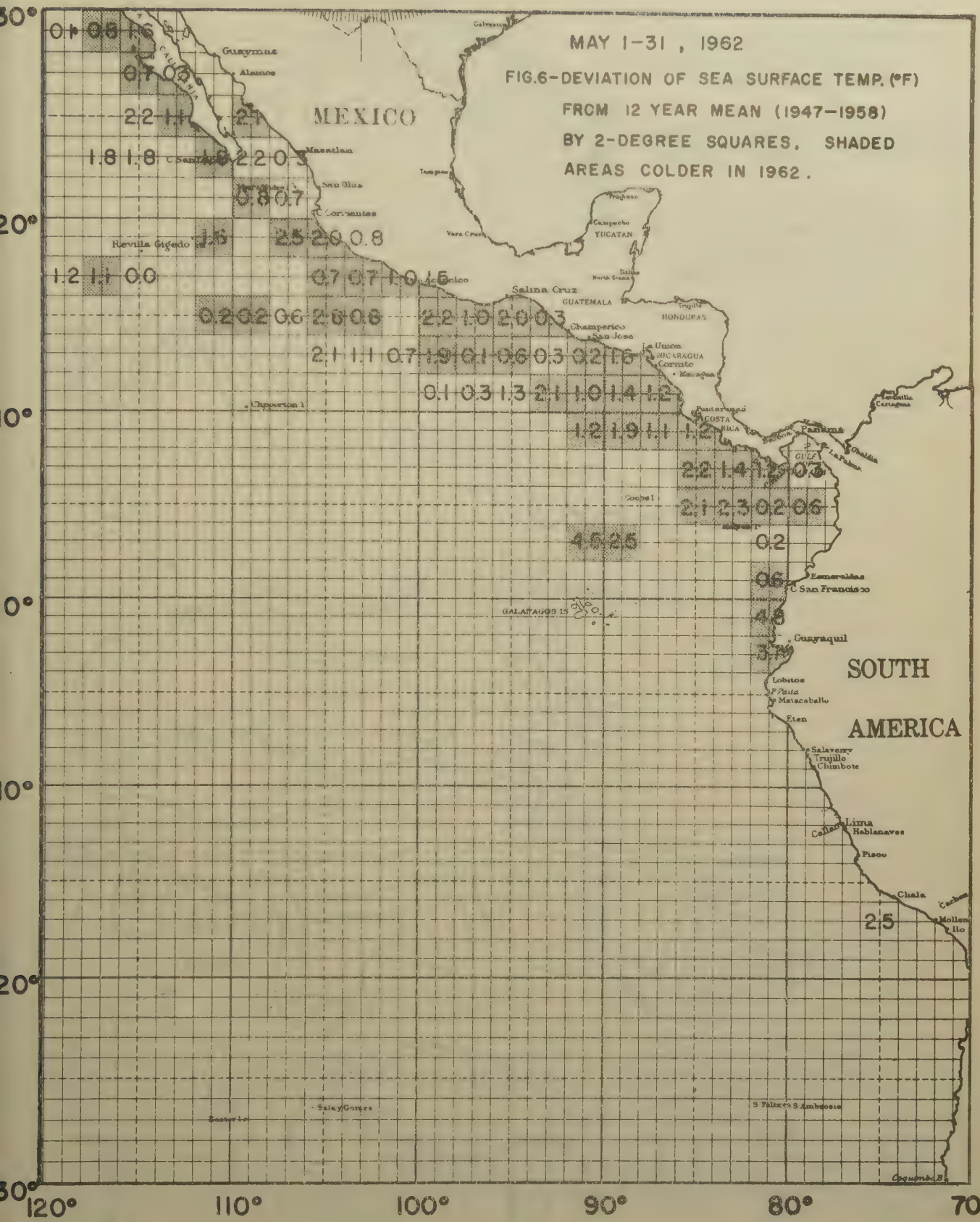

MAY 1-31 , 1962
FIG.1-MEAN SEA SURFACE TEMPERATURES (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°

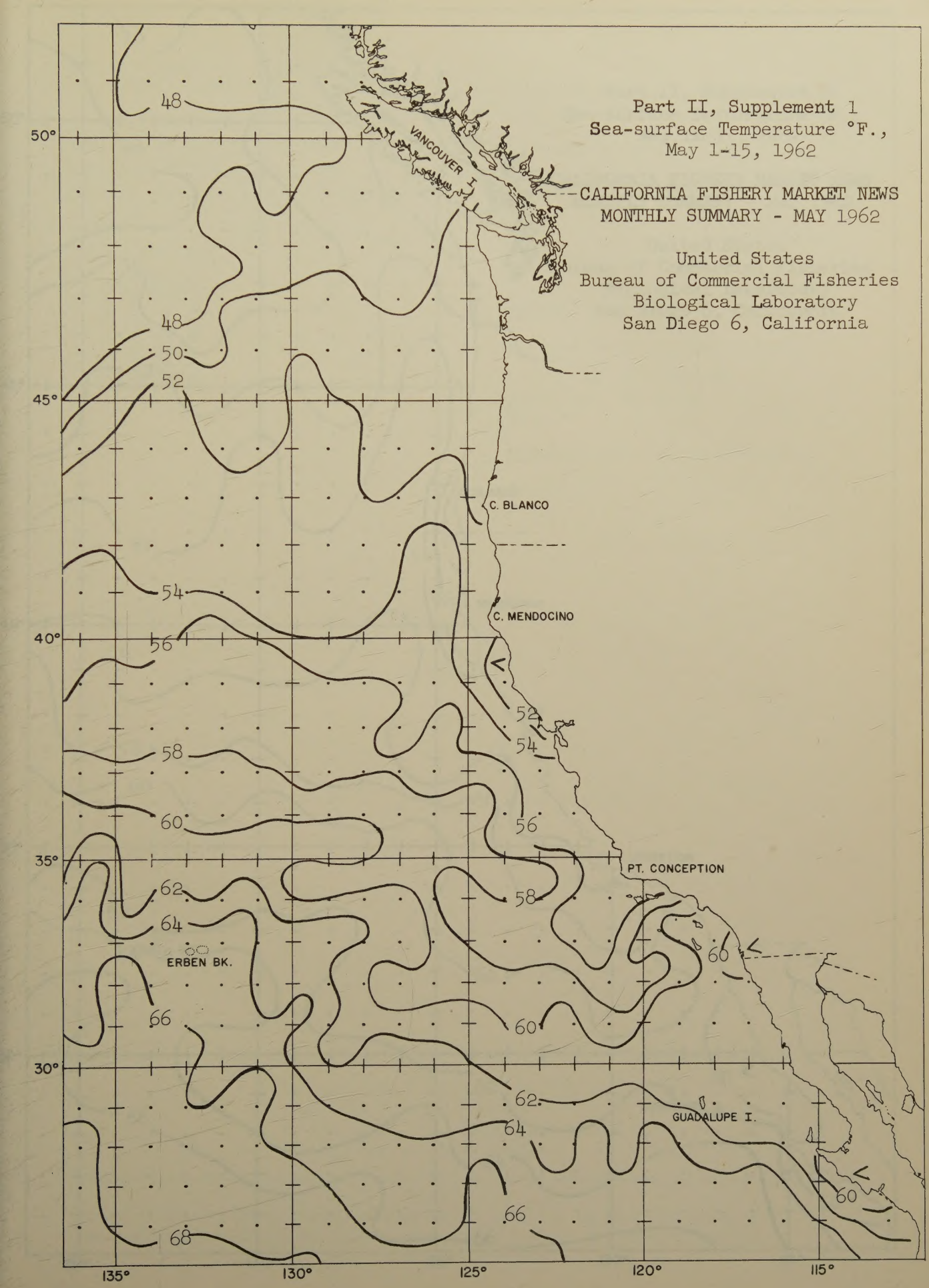

MAY 1-31 , 1962
FIG.2-DEVIATION OF SEA SURFACE TEMP.(°F) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1962.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4

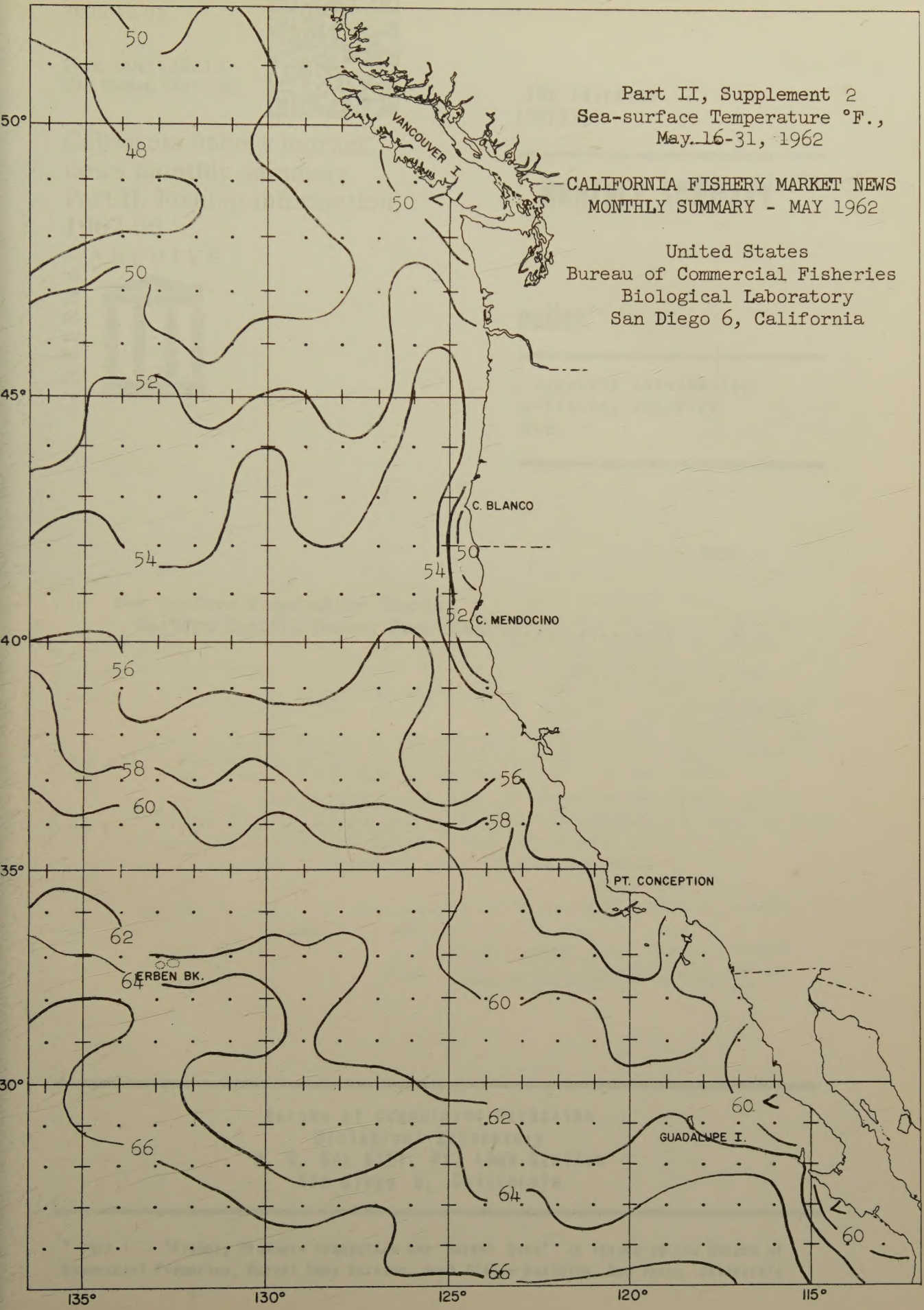

MAY 1-31, 1962
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F) FROM MAY 1961. HATCHED AREAS COLDER IN 1962.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
0
2
4


MAY 1-31, 1962
FIG. 4 - SEA SURFACE TEMPERATURES (°F) BY 1-DEGREE SQUARES.
MEXICO
SOUTH AMERICA
HAWAIIAN ISLANDS
Honolulu
Johnston I.
Christmas I.
Canton I.
PHOENIX ISLANDS
Malden I.
MARQUESAS
UNION ISLANDS
SAMOA ISLANDS
TUAMOTU ARCHIPELAGO
Makatea
Tahiti
COOK ISLANDS
TONGA ISLANDS
Raivavae
TUBUAI OR AUSTRAL IS.
Easter I.
Galapagos Is.
Guaymas
Mazatlan
San Blas
Corrientes
Manzanillo
Salina Cruz
GUATEMALA
HONDURAS
NICARAGUA
Corinto
San Jose
Panama
Guayaquil
Callao
Lima
Pisco
Mollendo
Arica
Iquique
Coquimbo
Valparaiso
Talcahuano
Chiloe
Juan Fernandez
30°
20°
10°
0°
10°
20°
30°
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°


MAY 1-31, 1962
FIG.5-DEVIATION OF SEA SURFACE TEMP.(°F) FROM MAY 1961 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1962.
MEXICO
SOUTH AMERICA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
YUCATAN
GULF OF PANAMA
GALAPAGOS IS
Guaymas
Alamos
C. Corrientes
San Blas
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
La Union
Corinto
Managua
Chipperton I
Coobs I
Esmeraldas
C. San Francisco
Guayaquil
Lobitos
Matacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Hablanaves
Pisco
Chala
Mollendo
Ilo
Isla y Gomez
S. Felixes
S. Ambrosio
Tampico
Vera Cruz
Progreso
Campeche
Belize
Trujillo
Cartagena
Panama
Balboa
Puntarenas
30°
20°
10°
0°
10°
20°
30°
120°
110°
100°
90°
80°
70°


MAY 1-31 , 1962
FIG.6-DEVIATION OF SEA SURFACE TEMP. (°F)
FROM 12 YEAR MEAN (1947-1958)
BY 2-DEGREE SQUARES. SHADED
AREAS COLDER IN 1962.
MEXICO
SOUTH
AMERICA
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
YUCATAN
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Salina Cruz
Champerico
San Jose
Corinto
Panama
Esmeraldas
C San Francisco
Guayaquil
Lobitos
Pta Pasta
Matacaballo
Eten
Salaverry
Trujillo
Chimbote
Lima
Callao
Hablanaves
Pisco
Chala
Mollendo
Tampico
Vera Cruz
Progreso
Campeche
Galveston
Corpus I
Chipperton I
Clarion I
Socorro I
GALAPAGOS IS
Easter I
Sala y Gomez
S Felixes S Ambrosio
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
10°
20°
30°


Part II, Supplement 1
Sea-surface Temperature °F.,
May 1-15, 1962
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - MAY 1962
United States
Bureau of Commercial Fisheries
Biological Laboratory
San Diego 6, California
VANCOUVER I.
C. BLANCO
C. MENDOCINO
PT. CONCEPTION
GUADALUPE I.
ERBEN BK.
48
48
50
52
54
56
52
54
58
60
56
62
64
58
60
66
60
62
64
66
68
60
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°


Part II, Supplement 2
Sea-surface Temperature °F.,
May 16-31, 1962
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - MAY 1962
United States
Bureau of Commercial Fisheries
Biological Laboratory
San Diego 6, California
VANCOUVER I.
C. BLANCO
C. MENDOCINO
PT. CONCEPTION
GUADALUPE I.
ERBEN BK.
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°
50
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